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A4K  
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## (54) A twin-headed toothbrush

(57) The toothbrush has two heads (11), e.g. bristle bundles, which either face or can be arranged to face in generally the same direction so that the toothbrush can be used to clean upper and lower teeth simultaneously. The heads (11) are connected to an elongate handle (10) by respective independently deflectable resilient arms (12) which by virtue of their resilient nature will accommodate any misalignment between the upper and lower teeth. The arms may be detachable, and may also be movable to positions in which the brushes can be used to clean the fronts and backs of teeth simultaneously.



FIG. 1.

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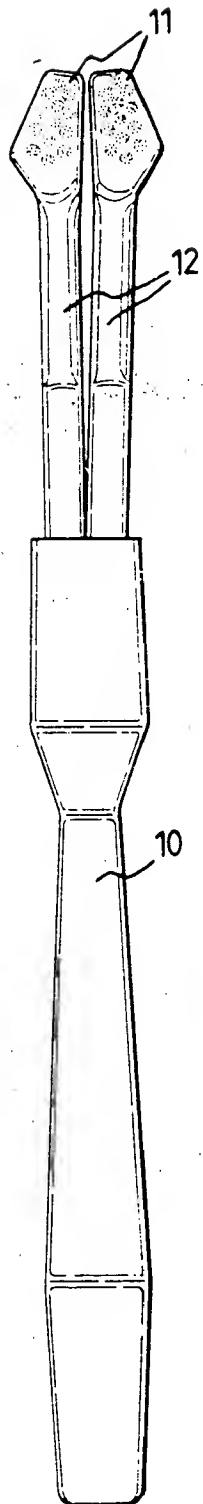


FIG. 1.

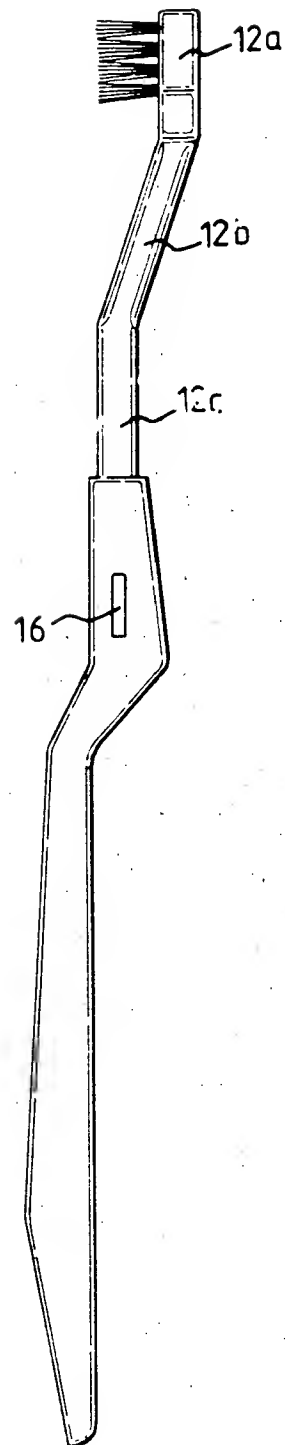


FIG. 2.

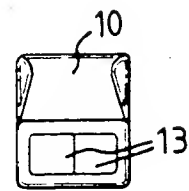


FIG. 3.

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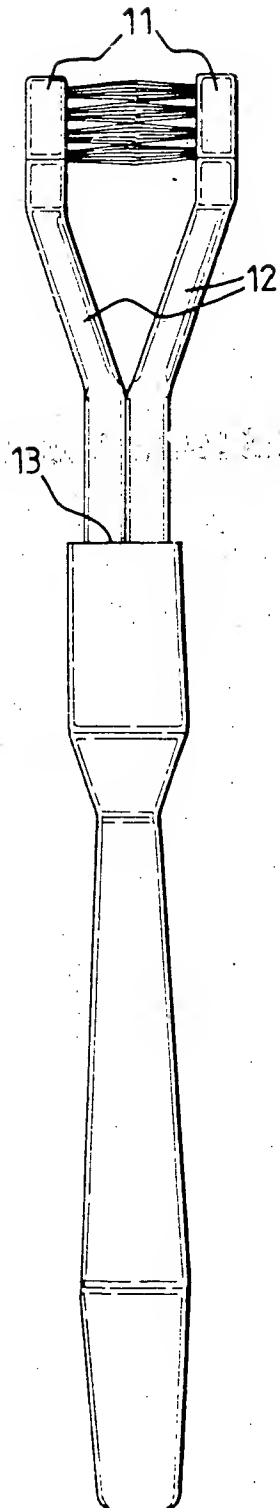


FIG. 4.

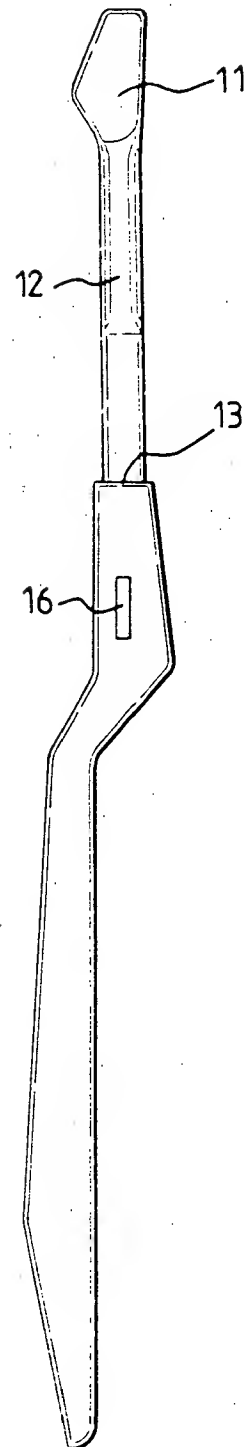


FIG. 5.

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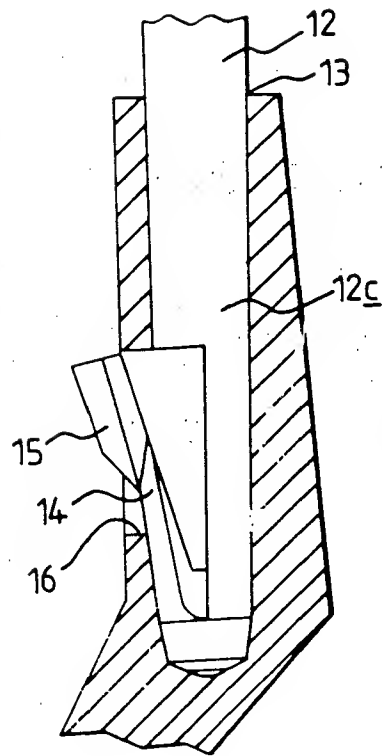


FIG. 6.

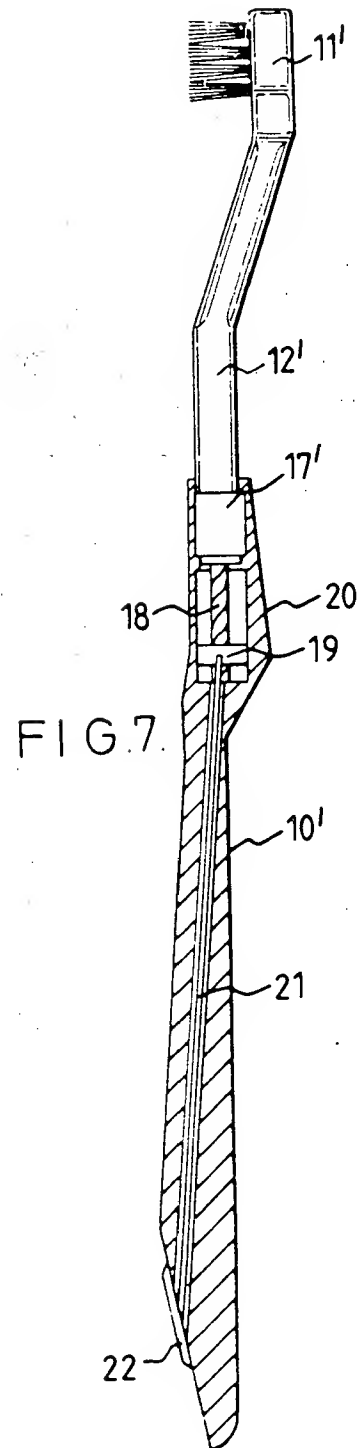


FIG. 7.

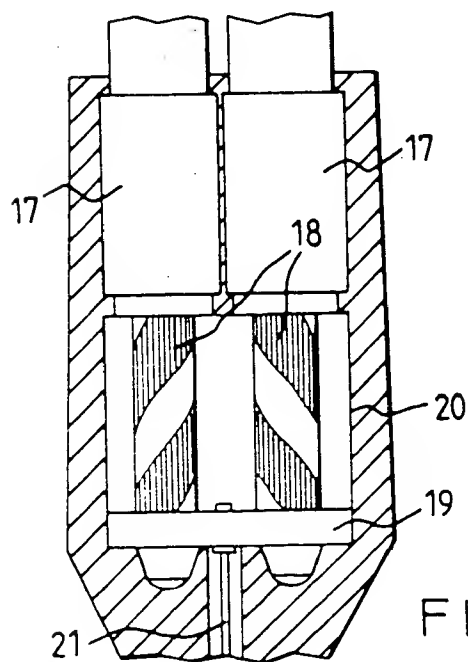


FIG. 8.

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## SPECIFICATION

### A toothbrush

- 5 This invention relates to a toothbrush which can be used to clean the upper and lower teeth of a user simultaneously.

10 The invention provides a twin-headed toothbrush which can be used to clean upper and lower teeth simultaneously, the two heads of the toothbrush being connected to an elongate handle by respective independently deflectable resilient arms.

15 The resilient nature of the arms allows the arms to deflect in order to accommodate any misalignment between the upper and the lower teeth.

20 Preferably, the arms are selectively movable relative to the handle from first positions in which the two heads face in generally the same direction for cleaning the upper and lower teeth simultaneously to second positions in which the two heads face generally towards one another for cleaning the fronts and backs of teeth simultaneously.

25 Other preferred and/or optional features of the invention are set forth in claims 3-8.

30 The invention will now be more particularly described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a front view of a toothbrush according to a first embodiment of the present invention in one operating position;

35 Figure 2 is a corresponding side view of the toothbrush of Fig. 1;

Figure 3 is a front end view of the handle of the toothbrush of Figs. 1 and 2;

40 Figure 4 is a front view of the toothbrush of Figs. 1 and 2 in another operating position;

Figure 5 is a corresponding side view of the toothbrush of Fig. 4;

45 Figure 6 is an enlarged sectional view of part of the toothbrush of Figs. 1 to 5 showing the way the heads are connected to the handle;

Figure 7 is a sectional side view of a toothbrush according to a second embodiment of the present invention showing the internal construction of the handle; and

50 Figure 8 is an enlarged fragmentary front view of the toothbrush of Fig. 7, partly in section.

Referring firstly to Figs 1 to 6 of the drawings, the toothbrush shown therein comprises an elongate handle 10 and two heads 11 attached to respective arms 12. The handle 10 is cranked slightly near one end and at said one end the handle has a pair of sockets 13 (although it may be possible to employ only one socket) for receiving those ends of the two arms 12 remote from the heads 11.

Each head 11 comprises a bundle of bristles and the arms 12 are formed of resilient plastic material for a purpose which will become

Each arm 12 has first, second and third portions 12a, 12b and 12c respectively. End portions 12a and 12c of each arm 12 lie in generally parallel spaced apart planes and are joined by intermediate portion 12b which extends at an angle to the aforesaid planes. The end portions 12a carry the bristle bundles and the free ends of the end portions 12c fit in the sockets 13 in the handle 10.

70 As shown in Figs. 1 and 2, the arms 12 are mounted in the sockets 13 so that the two heads 11, i.e. the bristle bundles, face in generally the same direction. When the heads 11 are orientated in this manner the toothbrush can be used to clean upper and lower teeth of a user's mouth simultaneously and the resilient nature of the arms 12 allows the arms 12 to deflect relative to one another in order to accommodate any misalignment 85 which may exist between the user's upper and lower teeth.

As shown in Figs. 4 and 5, the arms 12 are mounted in sockets 13 so that the two heads 11 generally face one another. When the heads 11 are orientated in this manner the toothbrush can be used to clean the fronts and backs of a user's teeth simultaneously.

In order to prevent unintentional removal of the arms 12 from the sockets 13 each arm 12 has, as best seen in Fig. 6, a resilient detent member comprising a finger 14 which at one end is integral with the arm 12 and which has a projection 15 at its other end locatable in one or other of two holes 16 100 provided in the walls of a respective socket 13 according to the orientation of the arm relative to the socket 13. As the arm 12 is pressed into the socket 13 the finger 14 will deflect inwards until the projection 15 is aligned with one of the holes 16 when the finger 14 will urge the projection 15 into the hole 16. Instead of fingers 14 the detent members could, for example, be in the form of spring loaded balls held captive relative the arms 12.

110 In an alternative embodiment (not shown) the arms may be permanently fixed to the handle with the heads facing generally in the same direction.

115 Referring now to Figs. 7 and 8, the toothbrush shown therein differs from that shown in Figs. 1 to 6 in that heads 11' are attached to arms 12' which are held captive in one end of the handle 10' and are swivellable thereto. The inner ends of the arms 12' have portions 17 journaled in the handle 10' and portions 18 provided with helical threads of large pitch and opposite hand. A nut 19 having two threaded bores is mounted on the portions 18 and is mounted in a recess 20 in the handle 10' for slidable movement by an actuating rod 21.

The actuating rod 21 can be operated by a user by sliding a button 22 provided at the

along the recess 20 and thereby cause the arms 12' to swivel in opposite angular directions between a position in which the heads 11' face in generally the same direction and a position in which the heads 11' face each other.

The above embodiments are given by way of example only and various modifications may be made without departing from the scope of the invention.

#### CLAIMS

1. A twin-headed toothbrush which can be used to clean upper and lower teeth simultaneously, the two heads of the toothbrush being connected to an elongate handle by respective independently deflectable resilient arms.

2. The toothbrush of claim 1, wherein the arms are selectively movable relative to the handle from first positions in which the two heads face in generally the same direction for cleaning the upper and lower teeth simultaneously to second positions in which the two heads face generally towards one another for cleaning the fronts and backs of teeth simultaneously.

3. The toothbrush of claim 2, wherein the arms are releasably connected to the handle.

4. The toothbrush of claim 3, wherein each arm is mounted in a socket in one end of the handle.

5. The toothbrush of claim 4, wherein detent means are provided to hold the arms in the socket(s) to prevent unintentional release therefrom.

6. The toothbrush of claim 5, wherein the detent means comprises a resilient or spring loaded detent member on each arm and cooperating holes or slots in the socket(s).

7. The toothbrush of claim 2, wherein the arms are connected to the handle for swivelable movement relative thereto.

8. The toothbrush of claim 7, further comprising means for swivelling the two arms in unison in opposite angular directions.

9. A twin-headed toothbrush substantially as hereinbefore described with reference to the accompanying drawings.